# Astrodon Photometrics Sloan Filters

## 100%-Coated for Long-Term Durability and Consistency of Research

Astrodon Photometrics Sloan Filters use no colored glass with the highest throughputs available.

Astrodon has been purchased by Optical Structures Incorporated (OSI). The web store has transitioned to the OSI store at FarpointAstro.com.

## You may purchase Astrodon Photometrics Sloan Filters directly from the manufacturer here.

## Astrodon Photometrics Sloan Filters

Astrodon Photometrics Sloan filters have evolved to our current Generation 2 filters with technical input from Las Cumbres Observatory Global Telescope Network (LCOGT) and others. Additional separation was included between the g' and r' filters to better avoid atmospheric sky glow . In particular the Y and z_s near-infrared filters were added to ensure that the filter, and not the detector, controlled the high-wavelength cut-off. This in contrast to our z' filter, which is simply a cut-on, or long-pass filter. Lastly, out-of-band blocking was tightened from an average to absolute specification to further minimize the already small leakage. A summary of the 50% points is provided in the chart below.

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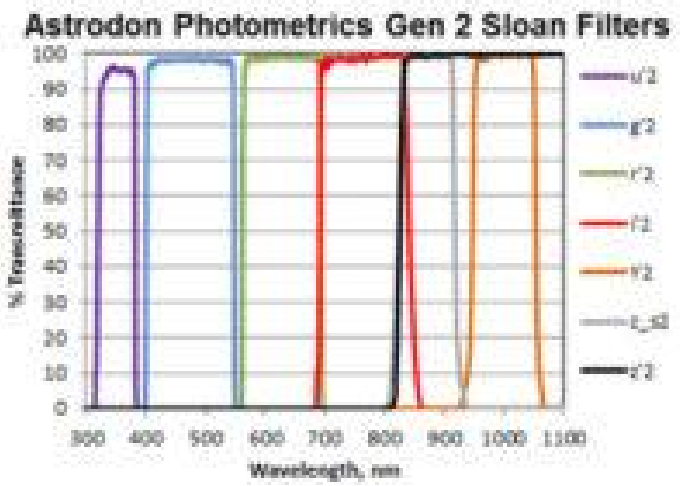
The Sloan Digital Sky Survery (SDSS) photometric filters were designed by Fukugita et al. (Ast. J., 411/4, April 1996, p. 1748-1756) to include five mostly non-overlapping filters covering 300 nm to the sensitivity limit of silicon CCD cameras near 1100 nm. They combined colored glass filters and short-pass dielectric coatings to steepen the low wavelength side of the bandpass. The [O I] sky glow line at 557.7 nm occurs between the g' and r' filters, and thus is reduced.

The SDSS photometric system is the most common filter set used today. The Hubble Space Telescope is equipped with an SDSS set that provides a large reference database for research. Much of photometry up to magnitude 23 will be done in this system with meter-class telescopes. The upcoming large collaborative survey projects (Large Synoptic Survey Telescope – LSST; Panoramic Survey Telescope and Rapid Response System – Pan-Starrs) will also use SDSS filters.

The following is a compilation of **actual** (not theoretical!) scans of **Astrodon Photometrics Sloan Generation 2 filters**.




## SPECIFICATIONS

- 50% transmission points provided above (+/- 3nm typical)
- Peak transmission guaranteed > 95% (>90% for u')
- <=0.03%Tabs out-of-band 300 – 1100 nm
- Single striae-free fused silica substrates
- 1/4-wave propagated wavefront prior to coating
- <0.5 arcminute substrate parallelism
- 3.000 +/-0.025 mm substrate thickness prior to coating
- 1.25″ mounted, 49.7 mm diameter and square unmounted standard sizes
- Other sizes up to 150 mm square on a custom basis (see below)
- Proud supplier to Las Cumbres Observatory Global Telescopes, AAVSO, Caltech/Palomar, MIT, Harvard, MacDonald Observatory, and other research organizations and universities worldwide
- Proudly made in the U.S.A.